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EXAMINER	
SUBRAMANIAN, NARAYANSWAMY	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/615,021
Filing Date: July 13, 2000
Appellant(s): PHILLIPS ET AL.

Joseph G. Swan, Reg. No. 41,338
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 16, 2005.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences that will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of claims 1-27, 37 and 39 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

3270310	LAMBERT	8-1966
6125355	BEKAERT et al	9-2000
6405179	REBANE	6-2002
6144945	GARG et al	11-2000
6532449	GOERTZEL et al	3-2003

Makridakis et al "Forecasting - Methods and Applications" John Wiley & Sons, Third Edition, 1998, pages 211-227, 241-260 and 433-439

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 2, 6, 7, 14, 37 and 39 are rejected under 35 U.S.C. 102(b). This rejection is set forth in paragraphs 6 and 7 of the final Office Action, mailed on November 16, 2004.

Claims 3-5, 8-13 and 15-27 are rejected under 35 U.S.C.103 (a). This rejection is set forth in paragraphs 8-14 of the final Office Action, mailed on November 16, 2004.

(11) Response to Argument

In response to Appellant's argument about claims 1, 37 and 39 that the Lambert reference fails to show certain features of applicant's invention, the examiner respectfully disagrees. In particular the examiner completely disagrees with the Appellant's assertion that Lambert does not disclose "estimating a measure of the tendency of the value of the asset to change based on a change in at least one of the exogenous variables using an obtained formula and projected data values for the exogenous variables, where the formula has been obtained based on historical data for value of an asset and historical data values for the exogenous variables". In Column 1 lines

29-35 Lambert discloses deriving a formula based on historical data for value of an asset and historical data values for the exogenous variables (Lambert Column 1 lines 20-24 and 40-45). Lambert also discloses estimating future prices which are estimates of measure of the tendency of the value of the asset to change based on a change in at least one of the exogenous variables using an obtained formula and projected data values for the exogenous variables (Lambert Column 1 lines 42-46). The high price of the stock is one estimate and the low price is another estimate. In response to Appellant's argument that Lambert says nothing at all about obtaining any formula for calculating a measure of the tendency of the value of the asset to change as a result of changes in data values of certain exogenous variables the examiner completely disagrees. One of ordinary skill in the art would understand that the formula estimated in Lambert (Column 1 lines 31-35) is the formula for calculating a measure of the tendency of the value of the asset to change as a result of changes in data values of certain exogenous variables. Appellant's arguments that generation of a price estimate is a simple weighted combination of certain variables is based on an improper characterization of Lambert's disclosure. The coefficients of the Lambert's model are not constants but "stationery parameters" based on minimizing the error of the model to the past data. One of ordinary skill in the art would understand that in multivariate techniques like multiple regression, coefficients of the regression model are derived based on minimizing errors (for example the least squared error). The coefficients in Lambert's model vary from one stock to the other and hence are by no means a constant. If they were constants there would be no need to estimate the formula for each stock based on past values of the exogenous variables. Since the values of the coefficients change from one stock to the other and the formula is based on exogenous variables, the formula is itself a

function of the exogenous variables. In other words, for identical projected values of the exogenous variables the estimate of future prices will be different for different stocks. Appellant's assertion that Lambert does not say anything at all about using a formula together with projected values for exogenous variables, to estimate a measure of the tendency of the value of the asset to change based on a change in at least one of the exogenous variables is incorrect because Lambert in Column 1 lines 40-46 discloses this feature. In short as discussed above Lambert discloses all the features including obtaining a formula for calculating a measure of a tendency of the value of the asset to change as a result of changes in the data values for the exogenous variables, wherein said formula is a function of the exogenous variables and using a formula together with projected values for exogenous variables, to estimate a measure of the tendency of the value of the asset to change based on a change in at least one of the exogenous variables.

In response to Appellant's argument about claim 7 that Lambert fails to show the step of calculating a price formula that describes the value of said asset as a function of said exogenous variables and then estimating a derivative of said price formula to obtain said formula, the examiner respectfully disagrees. The step of calculating a price formula that describes the value of said asset as a function of said exogenous variables has already been discussed above. One of ordinary skill in the art would understand that the partial derivative of the dependent variable with respect to an exogenous variable gives the coefficient for that variable. The whole concept of linear multiple regression is based on this principle and this inherency in Lambert would have been understood by one of ordinary skill in the art.

In response to Appellant's argument about claim 14 that Lambert fails to show the step of estimating tendency of the value of the asset to change based on a change in at least one of the exogenous variables, using different projected data values for the exogenous variables, the examiner respectfully disagrees. In Column 1 lines 40-46 and 60-64 Lambert discloses estimating a likely high price and a low price for the stock using the same formula and estimated range of the variables for the coming year. First of all a range of variables implies different projected data values for the exogenous variables. Secondly to obtain estimates of a high price and a low price at least some projected data values for the exogenous variables must be different.

In response to Appellant's argument about claim 21 that Bekaert fails to show the steps of repeating steps (a) through (c) in claim 1 for plural different assets; and selecting a subset of said plural different assets based on the measure estimated for each of said plural different assets in step (c), the examiner respectfully disagrees. First of all Bekaert discloses the steps (a) through (c) in claim 1 for plural different assets (Bekaert Column 4 lines 1-9, 24-30, 35-44 and Column 5 lines 40-45). The pricing module in Bekaert performs these steps. The intermediary step of generating a formula for generating a future price is inherent in the disclosure of Bekaert. The simulation module in Bekaert uses the output of the pricing module to determine one or more optimal portfolios (Bekaert Column 17-23). One of ordinary skill in the art of Finance and Investments would understand that determining a portfolio implies selection of a subset of a plurality of different assets. Since the portfolio determination is based on the output of the pricing module, the selection of a subset of said plural different assets is based on the measure estimated for each of said plural different assets in step (c) of claim 1. Hence Bekaert teaches all the features of claim 21.

In response to Appellant's argument about claim 17 that there is no motivation to combine Makridakis's teachings to the disclosure of Lambert, the examiner respectfully disagrees. The discussions above clearly show that Lambert does disclose generating a formula for calculating a measure of a tendency of the value of the asset to change as a result of changes in the data values for the exogenous variables. However once the formula is generated one would like to know how reliable the formula is in predicting values of the price of the asset. This is a standard check that is done by those who use regression models and this would have been obvious to one of ordinary skill in the art. Makridakis teaches the step of determining reliability of the estimated model. Both Lambert and Makridakis are concerned with providing the user of a regression model with reliable estimates. Hence it would have been obvious to one with ordinary skill in the art at the time of the current invention to combine the disclosures of Makridakis to the teaching of Lambert. The combination of the disclosures taken as a whole suggests that users would have benefited from getting a measure of reliability of the estimated model and allowed them to choose alternative models that provide better reliability.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Dr. Narayanswamy Subramanian
Examiner
Art Unit 3624

June 9, 2005

Conferees

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